



ROI Summary

GIVEN THE NASCENT STATE OF ENTERPRISE STREAMING and coordinate lack of tracking information, the primary goal of this research is to identify return on investment for corporations employing streaming, and to establish a means of measuring it.

In doing so, we have determined these values of significance: total streaming spending, number of stream-hours delivered, how many people were served and the durations of streams. We have also formulated new metrics for measuring the costs of streaming in the enterprise.

The first thing we noticed when we analyzed our ROI research data was the extremely wide range of uses of streaming within the corporate enterprise today. Some companies are spending thousands of dollars annually, and some are investing millions in streaming. Because of the broad spectrum, there is *no* average example that would be representative or valid. But there are specific insights that apply to companies that are just starting to use streaming in training (e-learning) and corporate communications, and to those who have long been streaming.

Think of this research report as a family portrait, with toddlers through to grandparents: Some of the companies we have surveyed have been at it for a long time, some have just started, and most are in-between. This report presents an inside view of the varied enterprise uses of streaming; identifies quantifiable and intangible returns on investment in streaming applications; and provides advice and solutions for those considering a streaming implementation for their company. It also identifies several key market segments that represent significant growth opportunity for vendors of enterprise streaming products and services.

At the outset, several general indicators about the enterprise streaming market are clear:

- ***It's just the beginning.*** Many companies just started streaming in earnest within the past 18 months. So, although streaming has been around for almost a decade, it's just now becoming mainstream.
- ***The Big Applications.*** Though the scenarios vary widely, most companies are focusing on a few main applications of streaming: training (e-learning), corporate communications, and advertising and marketing. Although there's plenty of innovation in new applications, these categories encompass what most companies currently do with streaming. As we will show, these apps are smart choices, and a good match for today's streaming technology: They bring measurable, quantifiable returns to supplement the many intangible benefits.
- ***Early results are very positive.*** Although most companies have been at it for a relatively short period of time, they are already seeing many of the benefits they expected and desired, including improved revenue, communication and timeliness, substantial cost savings, and customer satisfaction.
- ***Most companies are still at the basic webcast level.*** The vast majority of companies are using basic streaming technology, primarily for one-way webcasts. Few companies have begun using the more sophisticated technologies that enhance the value - and tame the complexity - of managing digital media. As the foundation of corporate streaming apps concretizes, this represents opportunity for vendors of digital media asset management, digital rights management, and tracking and measuring solutions.
- ***It's growing rapidly.*** All key indicators - the number of companies using streaming, spending levels, the number of people served, the magnitude of stream-hours delivered, and average stream bit rates - point to significant growth and big growth potential. We're clearly in a period of rapid growth and adoption.

- **Everyone’s trying it.** Well, almost everyone. This research includes respondents from numerous industries, including:
 - Consumer: automotive, electronics, museum, retail, travel
 - Financial: bank, brokerage, services
 - Media: advertising, cable TV, radio, recorded music, TV, videogames, webcast
 - Technology: aviation, consulting, construction, education, events, medical, network, PC, petro-chemical, pharmaceutical, recruiting, semiconductor, software
- **The early adopters are tech-savvy.** The wide range of industries and company sizes represented is accompanied by one common factor: Early streaming adopters are primarily companies who are already familiar users of high technology. Just as you’d expect.

3.1 – Major Research Conclusions: Spending

The measure of spending – on products, services, staff and supporting equipment – forms the first step in calculating return on investment. An investment in technology and new ways of doing business involves more than capital outlay – it also entails a psychological commitment to change, for instance. But a measurement of spending allows for apples-to-apples comparisons on overall cost savings, and serves as an indicator of commitment to and confidence in achieving less tangible returns. And because we gathered detailed data for years 2000 and 2001 (projected), we are able to calculate the growth of enterprise streaming by each of these metrics.

These are our most important summary research conclusions on stream spending:

- The total stream spending of the 111 respondents who provided us with detailed spending data is \$105 million. That’s an average of \$954,328 each. This is a higher average spending on streaming than has ever been previously reported.
- Our conservative estimate is that enterprise spending in North America will total \$318 million in year 2001. Additionally, high staff and equipment costs within enterprise spending point to significant market opportunities for automation. We estimate \$125 million in spending this year for companies that offer automation products and services.
- This stream spending represents just 0.12 percent (that is, one eighth of one percent) of the total annual revenue of these companies. Thus, we feel the capital impact is not a limiting factor, and room for growth, once benefits are realized, is substantial.

These companies served just under 3.4 million stream-hours to a total of more than 4.1 million people. (There’s no doubt that there are some duplicates between people served by different companies

| TABLE 3.1 – MEASURES OF COMPANY STREAMING | | | | | |
|---|----------------------|------------------|------------------|------------------|------------------|
| | Total Spending | Average Spending | Total Hours | # people | Hours per Person |
| Training | \$28,965,400 | \$998,807 | 1,192,348 | 377,559 | 3.16 |
| Corp. Communications | \$23,047,800 | \$1,353,282 | 443,826 | 666,450 | 0.67 |
| Advertising/Marketing | \$25,627,321 | \$640,683 | 579,260 | 1,744,640 | 0.33 |
| Entertainment | \$28,331,858 | \$1,089,687 | 1,163,516 | 1,342,080 | 0.87 |
| Totals | \$105,972,379 | \$954,328 | 3,378,950 | 4,130,729 | 0.82 |

- but no one has a way to measure the total number of unique people served). This means that the average person served, spent just over an hour a year streaming.

See Table 3.1 (above) for a summary of total spending, stream-hours delivered, and people served as categorized by the major streaming applications used by respondents.

The Importance of Unit Costs

The big-picture meaning of this data is the key to understanding streaming costs. The average cost of a stream-hour, across all the above applications, is **\$31.35**, and the average cost per person served is **\$25.64**. These are figures that you should keep in mind as you explore this research report.

As you will see in the dedicated chapters on Training and Education, and Corporate Communications applications, there is a wide range in spending and uses of streaming. This variation represents the research participants and, because the sample size is large enough and continuous enough, it also represents the state of the corporate streaming market.

In order to find measurement tools that are valuable across this wide range of usage, we have created two new metrics: Cost Per Hour (CPH) and Cost Per Person (CPP). We believe that these two metrics can be used to accurately predict the streaming costs of companies who are operating at peak efficiency. They also offer management a simple perspective on their investments in streaming.

Here's an analogy that explains the notion of unit cost at operating efficiency. The unit cost of an airline seat, the unit cost of business rental space, and the unit costs at a semiconductor fabrication plant all have this in common: a huge capital investment is made before any revenue is derived. And only when such businesses are operating at capacity will the unit costs stabilize at very flat rates. These peak efficiency costs for streaming applications have never before been analyzed or published, and yet they are very stable and predictable. This makes them extremely useful as forecasting tools.

One more value these metrics offer is how easy they make some management decisions. It can be fairly difficult to calculate the ROI for a \$500,000 project. But it's very easy to calculate the cost savings of spending \$30 for an hour of employee training as compared with the alternate costs of either travel or distribution via traditional media.

The case is similar for Cost Per Person. CPP makes it easy to calculate and manage investments in terms of all other technology investments. If a company knows that its target cost for 10 hours of streamed programming will be \$250 per person, it has a tool to measure against other investments, such as the cost of PC replacement, or supplying soft drinks.

Major Cost Factors

It's also important to note just how the spending by these companies breaks down according to equipment, staff, network, outsourced services (encoding, storage and delivery), and production. (See Table 3.2.) Staff costs clearly dominate spending across all streaming applications. Equipment and production constitute the second major cost center for streaming. Most spending is internal and not outsourced.

| | Equipment | Staff | Network | Outsource | Production |
|-----------------------|-----------|-------|---------|-----------|------------|
| Training | 28% | 35% | 12% | 4% | 21% |
| Corp. Communications | 19% | 43% | 13% | 7% | 19% |
| Advertising/Marketing | 10% | 47% | 15% | 3% | 24% |
| Entertainment | 32% | 41% | 11% | 5% | 10% |

And, as we'll explain later, respondents may have underestimated their network costs (largely because their networks are in place and paid for, and thus appear to be "free").

What this means to corporations (the users) is that they should plan accordingly, and understand that the primary cost center will be the staff applied to streaming initiatives. These high staff and equipment costs also represent a need for automation. So for those offering streaming and digital media products and services that address this need, they can be seen as a sign of market opportunity.

Companies may or may not choose to outsource their streaming infrastructure. Today, the majority of companies we interviewed manage most of their streaming infrastructure in-house. Whether they will

increase their outsourcing will primarily depend on matters of overall economics, control of network usage, system security and quality of service.

To determine your potential outsourcing costs, see Appendix B: Cost of Streaming Services.

The Applications Corporations Deploy

Although one application is often the center focus for a company's streaming efforts, it's normally the case that companies use streaming for more than one application. The most popular streaming applications are training, corporate communications, advertising and marketing and entertainment. Table 3.3, at right, largely reflects the selection of companies that participated in our ROI research, and thus the percentages can't necessarily be extrapolated across all companies. But it's clear from our research that these are the four most common streaming applications deployed today.

| Application | Deployed |
|---------------|----------|
| Advertising | 58% |
| Communication | 55% |
| Entertainment | 55% |
| Training | 51% |
| Conferencing | 29% |
| Help desk | 15% |
| Other | 5% |

The two streaming applications that best represent, exclusively, enterprise use are training and corporate communications. Which is why we devote detailed examinations to these applications (Chapter 4: Training and Education; Chapter 5: Corporate Communications). Other streaming applications are included in our summary data (and are the focus of Chapter 6: Emerging Applications).

When Companies Deployed Streaming

It's especially important to note that the vast majority of these streaming applications were first deployed last year (2000) and this year (2001). Just three respondents out of 111 deployed streaming applications earlier than last year. There are certainly companies that have been streaming for a longer time, but the mainstream is just getting started.

3.2 - Major Research Conclusions: Market Growth

The primary goal of this research and of this report is to identify return on investment for corporations employing streaming, and to establish a means of measuring it. However, because we researched the most significant measures of corporate use of streaming – spending, stream-hours delivered, how many people were served, and the duration of streams – we have been able to calculate the growth of enterprise streaming by each of these metrics.

These are our most important summary research conclusions on the market growth of streaming. By every measure, respondents' use of streaming is growing rapidly (year 2001 data as compared with year 2000):

- 45 percent more companies are streaming this year than last
- 86 percent increase in total enterprise streaming spending
- 35 percent increase in the number of people served
- 230 percent increase in the total number of stream-hours delivered
- 465 percent increase in bytes transferred (suggesting that the average bit rate delivered has doubled)

Clearly, enterprise use of streaming is just now becoming mainstream. We estimate that rapid growth will continue for the next three years, as the result of these factors:

| Table 3.4 - ENTERPRISE STREAMING FORECAST (in millions) | | | | | |
|--|--------------|--------------|--------------|--------------|----------------|
| Application | Y2000 | Y2001 | Y2002 | Y2003 | Y2004 |
| Training | \$46 | \$87 | \$152 | \$251 | \$389 |
| Corporate Communications | \$48 | \$69 | \$121 | \$199 | \$309 |
| Advertising and Marketing | \$31 | \$77 | \$135 | \$222 | \$344 |
| Entertainment | \$46 | \$85 | \$127 | \$191 | \$287 |
| Total | \$171 | \$318 | \$535 | \$863 | \$1,329 |

- Significantly more companies will begin trial streaming efforts.
- Companies will expand from their initial trials to reach more of their employees and customers with more content.
- Companies will expand the range of streaming applications they employ.

Table 3.4 (above) shows our predictions of growth for enterprise streaming by application.

3.3 - Why Companies Stream

Return on investment is, of course, all about expectations and actual results. ROI analysis hinges, to some degree, on why companies stream: what they consider the desired benefits of streaming, what they want to get in return, and what they actually receive in return.

It may or may not be important to you exactly which benefits other companies want to achieve. What is certainly important to you, is the various benefits your company wants to achieve through its streaming initiatives. So, you should concentrate on the benefits that matter most to you, and then plan how you can measure these benefits.

Part of our research reveals that corporations consider streaming’s potential benefits primarily in terms of increased revenue and communication. And, quite surprisingly, increased productivity and significant cost savings do not represent the primary driving force behind corporate adoption of streaming – even as these same respondents make clear exactly how much benefit they have derived in terms of productivity and cost savings. This contradiction probably represents the corporate focus on the bottom line, rather than a dismissal of these benefits.

Companies primarily want increased revenue and communication.

- Increased revenue is desired by 74 percent of respondents – more than any other benefit.
- Improved communication is a close second at 72 percent, and
- Enhanced brand followed with 68 percent.
- Despite the fact that not all of these desired benefits apply to all applications, these expectations make perfect business sense.
- What surprises us is that just 46 percent and 28 percent of respondents seek the potential benefits of cost savings and employee productivity, respectively.

You can’t manage what you can’t measure.

- Whatever ROI benefits you desire, there are ways to track and manage each of them.
- Many respondents are under the illusion that streaming had already paid off, yet when we examined their cost of customer acquisition and cost of sale, they were frequently not yet achieving the success they imagined.
- Focus on the direct benefits (tangible and intangible) you want, rather than on the end benefits (such as revenue). This gives you something you can manage.

The perception *is* the reality

The streaming industry should take note of these perceptions in its sales and marketing collateral. Enterprise customers show little confidence in achieving increased productivity. Companies are looking for ways to see direct increases in revenue and communication from their streaming initiatives. This requires the ability to track viewing behavior directly to revenue – not something that any of our respondents are able to do today.

3.4 - Early Results

Although the vast majority of respondents have deployed streaming within just the past 18 months, they are already deriving visible benefits. Respondents have perceived an increase – if not always measur-

| Table 3.5 - SUMMARY OF EARLY RESULTS | | | | | |
|--------------------------------------|---------|-------|---------------|--------------------|----------------|
| Early Results | Revenue | Brand | Communication | Audience Retention | More Customers |
| Yes | 38% | 72% | 48% | 40% | 51% |
| NO | 34% | 14% | 29% | 35% | 21% |
| TBD | 30% | 13% | 24% | 26% | 29% |

able – in the top desired benefits of revenue, communication and brand recognition. (It should be noted for brand recognition, the respondents were identifying a “coolness factor” or perception that implementing streaming signaled a company initiative that was unique and innovative. We expect the perceived benefit of “brand recognition” to diminish as streaming becomes more ubiquitous.) And no respondents reported such unsatisfactory results that they were inclined to give up on using streaming. These are happy customers.

3.5 - Summary Conclusions and Predictions

Here are the main conclusions we’ve reached from our ROI research, along with the major predictions:

Conclusions

- By every measure, respondents’ use of streaming is growing rapidly:
 - 45 percent more companies are streaming this year than last
 - 86 percent increase in total enterprise spending
 - 35 percent increase in the number of people served
 - 230 percent increase in the total of stream-hours delivered
 - 465 percent increase in bytes transferred (which means that the average bit rate delivered has doubled)
- Enterprise use of streaming is just now becoming mainstream
- Streaming is highly economical compared to traditional media distribution and employee travel:
 - Streaming is highly economical as compared with the cost of travel.
 - Streaming is extremely effective as compared with traditional media distribution.
 - Expansion-phase deployments:
 - experience significant economies of scale
 - are more efficient with resources
 - deliver more benefits (to more people served, and for longer duration).
 - At peak operating efficiency, a corporation will spend approximately \$20 to \$31 per stream-hour delivered (depending on the particular streaming application).

Predictions

1. Streaming usage will continue to expand rapidly in corporations worldwide.

- Enterprise stream spending in North America this year will be \$318 million.
- Companies will expand from early trials into full-blown initiatives.
- Expansion phase companies will have to manage issues of:
 - network capacity
 - storage systems
 - more sophisticated streaming application technologies

2. We estimate that the current 30 percent compound growth rate (CGR) will continue for the next three years, as the result of these factors:

- Significantly more companies will begin trial streaming efforts.
- Companies will expand from their initial trials to reach more of their employees and customers with more content.

3. Companies will expand the range of streaming applications they employ.

